

**INTERNATIONAL STANDARD ISO 4259:1992
TECHNICAL CORRIGENDUM 1**

Published 1993-04-01

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Petroleum products – Determination and application of
precision data in relation to methods of test****TECHNICAL CORRIGENDUM 1***Produits pétroliers – Détermination et application des valeurs de fidélité relatives aux méthodes d'essai***RECTIFICATIF TECHNIQUE 1**

Technical corrigendum 1 to International Standard ISO 4259:1992 was prepared by Technical Committee ISO/TC 28,
Petroleum products and lubricants.

Page 34In equation (62), replace "*b_{sub1}*" by "*b₁*".**Page 35**

Delete the final paragraph, which is repeated at the top of page 36.

UDC 665.7.001.4:519.23:620.1**Ref. No. ISO 4259:1992/Cor.1:1993 (E)****Descriptors :** petroleum products, test results, accuracy, rules of calculation, reproducibility.

© ISO 1993

Printed in Switzerland

INTERNATIONAL
STANDARD

ISO
4259

Second edition
1992-12-15

**Petroleum products — Determination and
application of precision data in relation to
methods of test**

*Produits pétroliers — Détermination et application des valeurs de fidélité
relatives aux méthodes d'essai*



Reference number
ISO 4259:1992(E)

ISO 4259:1992(E)

CONTENTS		Page
	Introduction	1
1	Scope	2
2	Normative Reference	2
3	Definitions	2
4	Stages in planning of an inter-laboratory test programme for the determination of the precision of a test method	3
	4.1 Preparing a draft method of test	3
	4.2 Planning a pilot programme with at least two laboratories	3
	4.3 Planning the inter-laboratory programme	4
	4.4 Executing the inter-laboratory programme	4
5	Inspection of inter-laboratory results for uniformity and for outliers	4
	5.1 Transformation of data	4
	5.2 Tests for outliers	5
	5.3 Rejection of complete data from a sample	6
	5.4 Estimating missing or rejected values	7
	5.5 Rejection test for outlying laboratories	8
	5.6 Confirmation of selected transformation	8
6	Analysis of variance and calculation of precision estimates	8
	6.1 Analysis of variance	8
	6.2 Expectation of mean squares and calculation of precision estimates	10
	6.3 Precision clause of a method of test	12
7	Significance of repeatability r and reproducibility R as discussed in earlier clauses	12
	7.1 Repeatability r	12
	7.2 Reproducibility R	12
8	Specifications	13
	8.1 Aim of specifications	13
	8.2 Construction of specifications	13
9	Quality control against specifications	14
	9.1 Testing margin at the supplier	14
	9.2 Testing margin at the recipient	14
10	Acceptance and rejection rules in case of dispute	14
Annexes		
A	(Normative) Determination of number of samples required	16
B	(Informative) Derivation of formula for calculating the number of samples required	17
C	(Normative) Notation and tests	18
D	(Normative) Example results of test for determination of bromine number and statistical tables	22
E	(Normative) Types of dependence and corresponding transformations	29
F	(Normative) Weighted linear regression analysis	32
G	(Normative) Rules for rounding off results	37
H	(Informative) Explanation of formulae in clause 7	38
J	(Informative) Specifications which relate to a specified degree of criticality	40
	Bibliography	42

© ISO 1992

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland